Sharm El-Sheikh Adaptation Agenda

TECHNICAL REPORT

2030 Adaptation Outcomes for Adaptation & Resilience Planning

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BCG

RACE TO RESILIENCE

Marrakech Partnership | Global Climate Action

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EXECUTIVE SUMMARY

Physical climate risks have been and are expected to continue increasing in frequency and severity. Adaptation and resilience (A&R) planning is important to protect people, economies, and ecosystems from the negative impacts of climate change by helping decision-makers understand climate risk, develop portfolios of A&R solutions, and mobilise funding for building a resilient world.

While national, regional/state, and city governments are at the forefront of driving integrated, evidence-based, and action-oriented A&R plans, most governments today are not sufficiently advanced in A&R planning and implementation. Similarly, despite the importance of companies planning for their own resilience, particularly those entities that own and operate critical infrastructure, supply chains, and essential services, most companies are also not adequately prepared.

To improve resilience for vulnerable people globally, robust A&R planning is needed at the national, state/region, and city levels, as well as for the private sector where critical goods and services could be disrupted by climate shocks. The planning process should be localised and consultative, integrated across various levels of government and sectors, and ultimately mainstreamed into existing policies and plans. Successful A&R planning will require increased access to data, technical/analytical capabilities, supporting policy frameworks that guide A&R priorities, and appropriate levels of funding and resourcing. Private sector companies will play an increasingly important role in developing their own A&R plans, as well as participating in public sector planning and developing, implementing, and funding A&R solutions.

In the Race to Resilience, the UN Climate Change High-Level Champions are calling for action across **four Sharm el-Sheikh Adaptation Outcomes for A&R Planning: cities and regions to have A&R plans, companies to have A&R plans, A&R planning to be localised and consultative, and universal access to climate tools and information.** This report discusses the need for and best practices in A&R planning, deep dives into the **Sharm el-Sheikh Adaptation Outcomes for A&R Planning**, and amplifies the UN Climate Change High-Level Champions' call for collective action from stakeholders across national governments, subnational governments, the private sector, funders, and civil society. This report advocates for a significant scaling up of planning activities as it is only with this sort of collective action, across state and non-state actors, that the necessary measures will be implemented to improve the resilience of vulnerable people globally.

This report should be read in conjunction with the 2030 Adaptation Outcomes for A&R Finance, 2030 Adaptation Outcomes for Human Settlements, and 2030 Adaptation Outcomes for Food & Agriculture reports.

I. INTRODUCTION TO THE SHARM EL-SHEIKH ADAPTATION OUTCOMES FOR A&R PLANNING

The **Sharm el-Sheikh Adaptation Outcomes** are a series of bold actions that will enable 4 billion people to become more resilient to the increasingly frequent and severe impacts of climate change. Led by the UN Climate Change High-Level Champions and amplified by the Egyptian COP27 Presidency, the Adaptation Outcomes include actions across the systems that form the basis of our collective global resiliency, including food and agriculture, water, oceans, infrastructure, and human settlements. Critical enablers to build resilience across these systems are robust adaptation and resilience (A&R) planning and A&R finance.

The UN Climate Change High-Level-Champions are advocating for action around **four Sharm el-Sheikh Adaptation Outcomes for A&R Planning** launched at COP27:

1) **10,000 cities and 100 regional governments have evidence-based, actionable adaptation plans**
2) **Operationalisation of National Adaptation Plans and Locally Led Principles, enabling adaptation in a country-driven localised and consultative manner**
3) **Universal access to the tools and information required to integrate climate risks into decision-making from local to global levels**
4) **2,000 of the world's largest companies have developed adaptation plans**

These outcomes and targets were identified and defined by the Climate Champions team in consultation with non-state actors across sectors. Fully achieving these outcomes will require:

- Building the required technical capacity on A&R, including climate risk assessment capabilities
- Setting up appropriate governance mechanisms to plan and implement A&R in a localised manner
- Securing funding for A&R planning and preparing for the implementation of A&R solutions
- Enhancing private sector participation in A&R

Building resilience will require focus and action from state and non-state actors including national, regional/state, and city governments, funders, the private sector, and civil society. The UN Climate Change High-Level Champions intend to address these barriers in collaboration with relevant partners.

In this report, we discuss the need for and best practices in A&R planning, deep dive into the **Sharm el-Sheikh Adaptation Outcomes for A&R Planning**, and amplify the UN Climate Change High-Level Champions' call to action.

II. IMPERATIVE FOR A&R PLANNING

The imperative for A&R planning is to protect lives, economies, and ecosystems

The climate crisis is a profound global challenge with negative impacts mounting more quickly than expected, from droughts in Africa to floods in Germany to heat waves in the UK. The pace of natural disasters and their cost have been rising: weather, climate, and water hazards have increased over four times from 1970–79 (711) to 2010–19 (3,165); the reported cost has increased more than seven times, from an average $49 million per day to approximately $383 million during the same time period.[1] Currently, roughly 50% of the world's population is also experiencing severe water scarcity for at least one month per year due to climate change and other factors.[2] Loss of species is growing exponentially and is projected to be between 1,000 and 10,000 times higher than the natural extinction rate.[3]

Impacts by mid-century will be even greater across global social, economic, and natural systems (Figure 1). Climate change could eliminate up to 18% of global GDP by 2050 if global temperatures rise by 3.2 degrees Celsius (approximately 38 degrees Fahrenheit).[4] One billion people are projected to be at risk from coastal-specific climate hazards in the mid-term (2041–60) under all climate scenarios.[5] Ninety percent of the world's coral reefs could undergo annual bleaching by 2050.[6]

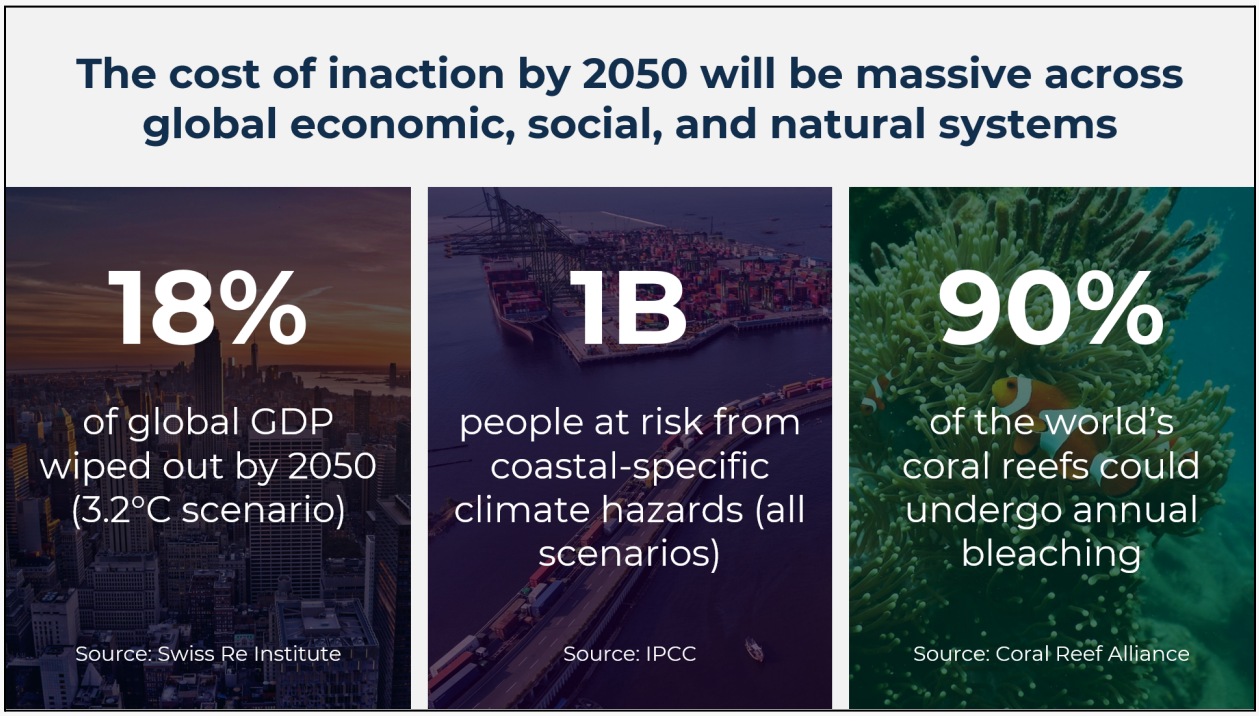

Figure 1. Projected cost of inaction by 2050

[1] WMO (2021); WMO Atlas of Mortality and Economic Losses from Weather, Climate and Water Extremes (1970-2019).
[2] IPCC. Sixth Assessment Report (2022).
[3] WWF. Natural extinction rate is the rate of species extinctions that would occur if humans didn't exist.
[4] Swiss Re Institute. The economics of climate change: no action not an option (2021).
[5] IPCC. Sixth Assessment Report (2022).
[6] NGO Coral Reef Alliance.

A&R—the capacity of social, economic, and environmental systems to cope with a hazardous event, trend, or disturbance[7]—is needed now more than ever to adapt these systems and increase physical and financial resilience to climate shocks. A&R planning is a critical activity that enables decision-makers to understand climate risks and assess the most-needed A&R actions to protect people (especially the most vulnerable), economies, and natural ecosystems. Without actionable planning with specific projects that can be funded and implemented, A&R actions are fragmented, with inadequate coordination between various stakeholders, and can lead to maladaptation.

In general, governments at all levels and companies across the globe are insufficiently prepared to adapt to the impacts of climate change. While net-zero plans are increasingly in place, there are major gaps in A&R planning globally. Only 20% of countries[8] and 459 cities (of 812 surveyed by CDP) have A&R plans, and very few companies have developed A&R plans. Those that do often fail to incorporate climate risk or actionable measures or mainstream A&R into their existing policies.

To adapt and build resilience, **national, regional/state, and city governments will need to be at the forefront of A&R planning**. Planning must be integrated, evidence based, action oriented, and linked to socioeconomic impact. To enable robust A&R planning, decision-makers need increased access and availability to data and technical capabilities, enhanced policy frameworks that guide A&R priorities, and appropriate levels of funding for planning and implementing A&R actions. The private sector has a pivotal role in contributing to A&R plans and co-developing solutions, particularly those that own and operate critical infrastructure, supply chains, and essential services (Figure 2).

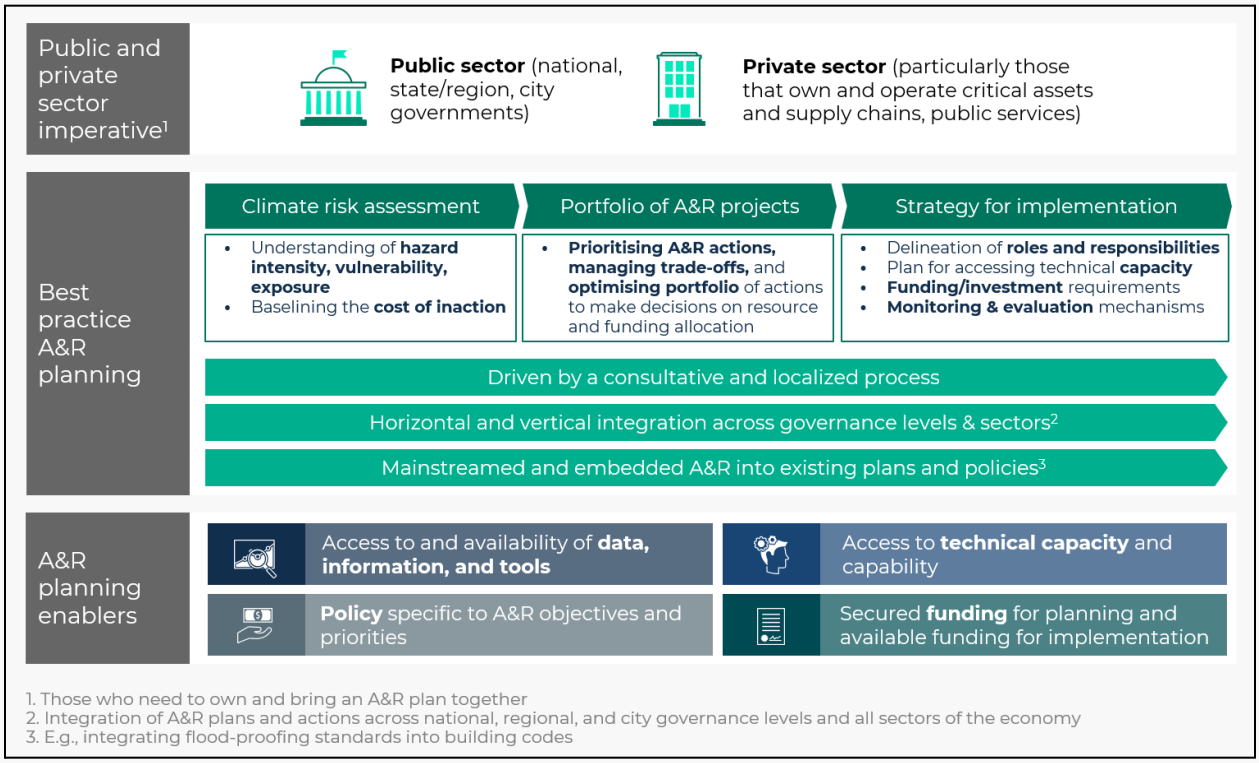

Figure 2. A&R planning at a glance. Source: BCG analysis

[7] IPCC. Sixth Assessment Report (2022).
[8] UN Environment Programme. Adaptation Gap Report 2021.

Sharm el-Sheikh Adaptation Outcome #1: 10,000 cities and 100 regional governments have evidence-based, actionable adaptation plans

City residents account for 56% of the world's population; that number is poised to increase 1.5 times to 6.7 billion people (i.e., 7 of 10 people in the world) by 2050.[9] Cities are also susceptible to climate hazards—approximately 90% are coastal[10] and thus vulnerable to flooding from sea level rise (SLR) and powerful storms. Furthermore, high concentrations of human activity in cities exacerbate exposure and vulnerability to climate impacts. Evidence-based, actionable adaptation plans help cities and regions become resilient against the increasing frequency and severity of these climate impacts. It is also essential for regional governments to carry out A&R planning, as they are often the first line of defence against climate risks. In 2021, 47% of the regions reporting to CDP announced that they had an adaptation plan in place, and 43% had undertaken a climate risk and vulnerability assessment.[11] Much more remains to be done, in partnership with the Marrakech Partnership, to accelerate action and support regional governments towards this goal.

Target: For **10,000 cities**—the total number of cities in the world, as defined by the Organisation for Economic Co-operation and Development (OECD)—to have plans. Fifty percent of people live in cities today and the creation of robust adaptation plans by all cities will help protect approximately 4 billion people globally. It is most critical for those cities with high sensitivity to hazard impacts and high exposure and vulnerability to climate risks to have robust A&R planning. This Adaptation Outcome also targets **100 regional governments**, based upon the work of Cities Race to Resilience partner Regions4.

Partner spotlight: Regions4 is the global network representing regional governments (states, regions, and provinces) before UN processes, European Union initiatives, and global discussions in the field of sustainable development. Through its climate initiative, **RegionsAdapt**, Regions4 empowers regional governments to accelerate climate action and adaptation through advocacy, cooperation, capacity building, and knowledge exchange. It also leads the representation of regional governments to halt biodiversity loss and raise ambition to achieve global goals towards resilient and sustainable territories and societies. Since 2021, RegionsAdapt has joined the Race to Resilience campaign and supported more than 70 regional governments to join the campaign and commit to assessing vulnerabilities, adopting an adaptation plan or strategy, taking action, and reporting on progress. During COP27, Regions4 will launch the declaration of regional governments for COP27 and the RegionsAdapt progress report for 2021–22, which informs the progress of regional governments towards A&R.

Key actor spotlight: The **Global Center on Adaptation** is an international organisation working as a solutions broker to accelerate action and support for adaptation solutions. Its 1000 Cities Adapt Now initiative aims to accelerate adaptation in 1,000 cities by 2030 through its alliance of core delivery partners. It consists of a comprehensive offer focusing on key impact solutions such as urban water resilience and nature-based solutions, transformative capacity building in cities, and peer-to-peer learning between cities.

[9] United Nations. Revision of World Urbanization Prospects (2018).
[10] C40 Cities. The Future We Don't Want report (2018), based on analysis of 2,586 global cities.
[11] CDP States & Regions Summary Report 2021.

III. BEST PRACTICE A&R PLANNING

A&R planning enables decision-makers to evaluate complex trade-offs, prioritise actions, and make decisions on allocating available capital and resources to build resilience. Evidence-based plans ultimately need to translate into a portfolio of fundable or investment-ready A&R solutions that can be implemented.

Robust, evidence-based, and actionable adaptation plans have the following building blocks:

- **Climate risk assessment** of multi-hazard climate risks, understanding of interdependencies, and quantified social, economic, and natural impact across different scenarios
- **Portfolio of adaptation projects** that are optimised to generate the highest impact and consider trade-offs in resource allocation and funding
- **Implementation strategy** that delineates roles and responsibilities for A&R planning across levels and sectors and includes plans for accessing technical capacities, monitoring and evaluation design, and funding requirements

Climate risk assessment: Robust A&R planning includes an evidence-based assessment of climate hazard intensity, exposure, and vulnerability

Robust A&R plans start with a deep understanding of climate risk and the interdependencies between climate hazards. Decision-makers can leverage climate data and analytics to understand which climate hazards threaten specific locations, the intensity of hazards across different climate scenarios, and the exposure and vulnerability across social, economic, and natural systems (i.e., impacts on critical sectors, different populations including vulnerable groups like women and children, GDP, employment, biodiversity, natural environment). For example, flooding and sea level rise (SLR) may cause GDP decline following reduced crop yields or diminished manufacturing output from coastal facilities, and agricultural populations may be severely affected due to water scarcity or food insecurity.

Assessment of climate risk ultimately helps decision-makers **quantify the baseline cost of inaction and assess climate impacts on local communities**. For example, BCG analysis of a coastal province in a densely populated Southeast Asian region revealed that by 2050, approximately 100,000 people would be exposed to SLR and temporarily or permanently displaced; of these, 16% are in poverty. The analysis also revealed an estimated $3 billion in combined capital cost and GDP impact from anticipated SLR and 1-in-10-year extreme events. These hazards also have the potential to inundate approximately 18% of the province's agriculture, forestry, and fishing assets, posing a risk to food security in the province and surrounding areas.[12]

[12] BCG analysis

Portfolio of adaptation projects: A comprehensive A&R plan incorporates a prioritised portfolio of adaptation projects that consider local context and optimises for socioeconomic and natural impacts

Understanding climate impacts on local geographies and communities allows planners to create a pipeline of A&R solutions that will achieve maximum impact (i.e., risk reduction) and optimal allocation of limited funds and resources. The decision as to which solutions to employ will require trade-offs and depend on each locality's specific A&R priorities. These trade-offs may include how much to invest in solutions that protect hospitals versus businesses, nature-based versus non-nature-based solutions, economic viability versus the cost of inaction, or government-led versus private-sector-led initiatives.

For example, when applying analytics to evaluate protection of communities in a major coastal city, BCG analysis estimated that restoring mangroves would protect similar numbers of people (500,000 to 800,000) and avert similar levels of economic impact ($3 billion to $5 billion) as building seawalls.[13] The nature-based solution of mangrove restoration, however, would cost up to 100 times less to implement while also acting as a carbon sink.

Implementation strategy should include four key factors for success:

1) **Clear roles, responsibilities, and governance.** Successful A&R planning requires clarity of roles and responsibilities of various stakeholders, from national to local levels, and across government ministries responsible for water, environment, economy, and finance, among others. While setups and contexts vary in each country, at a minimum there should be clarity on groups responsible and accountable for A&R planning and delivery. Decision-making needs to happen at the appropriate level of government to evaluate trade-offs, priorities, resource allocation, and project and budgetary approvals. For example, Nepal's National Adaptation Plan (NAP) laid out institutional arrangements that delineated the roles and responsibilities for A&R planning and implementation at different levels of government, detailed processes for integrating other plans, and mainstreamed adaptation into central policy frameworks.[14]

2) **Access to sufficient and appropriate technical capability and capacity.** Planners at various levels need access to adequate technical capacity to plan for and implement A&R solutions. A&R knowledge is needed across relevant government ministries and agencies since solutions are formulated and implemented at national, regional, and local levels. The basis for capacity building for adaptation lies in observations, predictions, and projections about existing and expected extreme weather- or climate-related events or slow-onset events (e.g., increasing temperatures, desertification, loss of biodiversity, SLR, etc.) and information on exposure, vulnerability, and possible A&R actions. For example, the government of Malawi created a Strategy on Climate Change Learning in 2013 to address the knowledge gaps required in making climate-change-related policies and interventions. The strategy resulted in the implementation of many successful initiatives, including developing climate change training modules for district councils (e.g., district forestry officers, directors of planning and environmental district officers) to improve their technical capabilities. The government recently updated the strategy in 2021, laying out its intention to educate government

[13] BCG analysis
[14] Government of Nepal, Nepal National Adaptation Plan 2021–2050 (2021); NAP Global Network, Vertical Integration in NAP Processes.

professional officers at national and district levels, policymakers, and parliamentarians on climate change science and other relevant topics.[15]

3) **A&R implementation continuously monitored and evaluated to allow appropriate adjustment of A&R plans.** Strong A&R planning requires an ongoing cycle of preparation, response, and revisions based on the monitoring and evaluation (M&E) of A&R interventions. Updating actions and plans regularly is necessary as climate science evolves and new information is uncovered. For example, to enable better M&E, Colombia started designing its M&E system for adaptation in 2014. The M&E framework provides guidelines for monitoring the objectives and measuring the progress of the National Plan for Adaptation to Climate Change (PNACC). The government formulated more than 100 key indicators to facilitate standardisation of metrics and information aggregation at the national and subnational levels.[16]

4) **A&R plans clearly translated to funding and resource requirements.** In moving from planning to action, it is essential to link A&R solutions to the landscape of relevant funders and funding instruments available and to identify appropriate mechanisms for financing various types of A&R activities. Different A&R projects require different investment strategies and at different timescales. This may require additional technical assistance to create a suitable business case for attracting specific types of funders, such as private financial institutions. In response to the impending climate change impacts, Grenada worked with its bilateral partner, the government of Germany, to increase the resilience of its vulnerable communities and ecosystems with the technical support of the Integrated Climate Change Adaptation Strategies program. This programme helped the country's NAP meet fiduciary principles (e.g., climate finance readiness), ultimately enabling the country to access the Green Climate Fund.[17] *See 2030 Adaptation Outcomes for A&R Finance and 2030 Adaptation Outcomes for Human Settlements reports for more detail on funding A&R.*

There are three essential practices to ensure A&R plans are robust, integrated, and actionable. When applied, these practices should increase the effectiveness of plans while reducing the potential risks of maladaptation.

a) **Planning should be a localised and consultative process.** A&R planning must happen in a localised and consultative manner that is aligned with national or subnational goals, including mitigation targets. As physical climate impacts are experienced at the local level, plans need to have solutions that take into account local hazards, socioeconomic considerations, and the realities in which they will be executed. In addition to utilising highly localised data, planning should incorporate local knowledge from on-the-ground communities and stakeholder groups. This is vital to identify solutions that both work practically in communities and consider unique social, cultural, and governance contexts. Plans then need to be balanced with action happening at higher levels (e.g., state, national) to align priorities and ensure that funding and resources are flowing to priority efforts. For example, Kenya's County Climate Change Fund (CCCF) is a devolved finance mechanism that empowers local actors to make climate finance decisions. It has a unique governance model as ward

[15] Government of Malawi, Malawi's Strategy on climate change (2021); UNFCCC, Malawi's Strategy on Climate Change Learning 2021.
[16] NAP Global Network. Colombia's Progress in Developing a National Monitoring and Evaluation System for Climate Change Adaptation (2019).
[17] UNDP. Integrated Climate Change Adaptation Strategies (ICCAS) in Grenada.

committees, the central pillar in CCCF's governance, are elected by local communities and have the responsibility of consulting with the grassroots to determine which adaptation projects to invest in. Given its success, the CCCF has been expanded and is a priority in Kenya's National Climate Change Action Plan (2018–22).[18]

b) **Planning is horizontally and vertically integrated across various government levels and sectors.** Coordination across levels of government and across sectors is essential to ensure that A&R plans are integrated and take a whole-system approach. This is especially important given that A&R is both a highly cross-cutting and a very localised topic, requiring context at the community level but also expertise across ministries of agriculture, finance, forestry, and more. Strong, established linkages are also essential to ensure that various A&R actions do not hamper one another's effects or potentially cause maladaptation, misdirection of funding, or increased emissions. In Colombia, for example, the government has taken a multipronged approach to NAP planning that incorporates A&R in the sectoral, territorial, and municipal planning processes. To facilitate this, they institutionalised one national, intersectoral climate change commission that covers ministries of environment, finance, agriculture, energy, and more, and nine regional nodes. These groups facilitate information sharing and collaboration on A&R activities, integrating action horizontally across sectors and vertically across governance levels. The formalisation of nodes provided an overarching framework for planning at the departmental level, with the ultimate objective of integrating climate change into municipal development and land-use plans, which drive the allocation of resources to local governments.[19]

c) **Planning is mainstreamed and embedded into existing plans and policies.** A growing number of countries are including A&R objectives in their national and subnational development policies, standards, and operating processes, as well as working across sectors and ministries to integrate A&R strategies into broader development planning.[20] Determining the entry points for the inclusion of A&R considerations into the relevant areas of policymaking may be through the medium-term development plan, a legislative approach, or the usage of regulatory frameworks (e.g., strengthening and updating building codes to enhance adaptation action in the infrastructure sector).[21]

[18] World Resources Institute. Locally Led Adaptation: From principles to practice (2022).
[19] NAP Global Network. Vertical Integration in NAP Processes
[20] World Resources Institute. From Planning to Action: Mainstreaming Climate Change Adaptation into Development (2018).
[21] Climate Analytics. Challenges in adaptation planning (2016).

Sharm el-Sheikh Adaptation Outcome #2: Operationalisation of Locally-Led Principles, enabling adaptation in a country-driven localised and consultative manner

A&R requires solutions tailored to the specific context of local communities that are impacted. Much of A&R planning today is top-down with insufficient consideration of local voices. The Locally Led Adaptation (LLA) principles aim for local communities, community-based organisations, citizen groups, local government, and local private-sector entities at the lowest administrative structure to be included as decision-makers in the climate adaptation interventions that affect them. The LLA principles are intended to guide the adaptation community as it moves programmes, funding, and practices towards adaptation that local partners increasingly own. Under the LLA, signatories commit to the following eight principles[22]:

1. Devolving decision-making to the lowest appropriate level
2. Addressing structural inequalities faced by women, youth, children, people with disabilities, people who are displaced, Indigenous Peoples and marginalised ethnic groups
3. Providing patient and predictable funding that can be accessed more easily
4. Investing in local capabilities to leave an institutional legacy
5. Building a robust understanding of climate risk and uncertainty
6. Flexible programming and learning
7. Ensuring transparency and accountability
8. Collaborative action and investment

A real-life illustration of operationalising the LLA by devolving decision-making to local actors is the Swayam Shikshan Prayog (SSP), an NGO focused on empowering women in India. Upon receiving the Huairou Commission's Community Resilience Funds from a global level, the grassroots women-run federations associated with the SSP have the power to determine the allocation, size, and purpose of these funds, given their deep understanding of the local needs.[23] Another example is the Gungano Urban Poor Fund in Zimbabwe, which provides loans to upgrade the livelihood and settlements of the urban poor. In operationalising the LLA principle of flexible programming and learning, it organises weekly meetings at the savings group level and regular meetings at the settlement, city, and national levels.[24]

Key actor spotlight: The **Global Center on Adaptation (GCA)** is an international organisation working as a solutions broker to accelerate action and support for adaptation solutions. They engage in innovative solutions to drive adaptation at scale, high-level policy development, new research contributions, advocacy, communications, and work with their partners to deliver action on the ground.

[22] Global Commission on Adaptation. Principles for Locally Led Adaptation Action (2021).
[23] World Resource Institute. Locally led adaptation: From principles to practice (2022).
[24] World Resource Institute. Locally led adaptation: From principles to practice (2022).

IV. A&R PLANNING ENABLERS

Increase access and availability of data, information, and tools. Decision-makers at different levels require the data that best highlights the factors and processes relevant to their respective decision-making context. However, data is still not widely available and accessible to those who need it. Data is critically needed to help planners understand their exposure and vulnerability to the relevant climate hazards that affect communities, baseline the cost of inaction, and run a cost-benefit analysis of potential A&R measures to make informed, evidence-backed decisions.

Three key types of geophysical data should be made more readily available to planners to support such decisions around A&R:

- **Socioeconomic data:** Demographic (e.g., age, gender, income) and economic (e.g., GDP/revenue, sectoral GDP)
- **Biogeophysical data:** Points of interest, land elevation, land use, land type
- **Climate data:** Historical as well as projections for weather and climate hazards

These critical data are held and provided by different types of players with varying degrees of quality and resolution. Often, paid access data is more granular, while open-source data might have broader geographical scope. Government agencies typically have historical weather and climate data as well as demographic data, but we continue to observe limited data sharing between agencies. To gain a comprehensive yet granular view of climate risks and impacts on localities, it is necessary to leverage data from multiple sources.

The local level is where high resolution and disaggregation of data are mostly needed to reflect the local topography as well as the social and economic particularities of the area. For example, in a recent planning exercise in a Global South megacity, the impacts of SLR and storm surge were modelled down to the square kilometre. Doing so enabled the city to identify climate impacts with a high level of granularity. For example, by 2050, even with a middle-of-the-road climate scenario, the homes of 1.4 million city residents, 700,000 of whom are classified as vulnerable, will likely be inundated due to permanent flooding brought about by SLR and extreme events like storm surges and land subsidence. As a result, those classified as vulnerable may require relocation.[25]

There are some success stories where data has been made globally available to planners. For example, municipalities in Norway and the insurance industry have come together to build a data platform that assists policymakers in making informed decisions for A&R planning. The Norwegian Directorate for Civil Protection (DSB) launched the Knowledge Bank in November 2020, providing access to local insurers' data as well as other public loss data for Norwegian municipalities and the Norwegian Flood Directorate (NVE),[26] which allows for better A&R planning. In Ethiopia, the National Meteorology Agency (NMA) collaborated with the International Research Institute for Climate and Society (IRI) at Columbia University to enhance climate data availability by filling spatial and temporal gaps in climate observations, improving data access by making them available online to the public, and enhancing data use by strengthening the capacity of the data user community.[27]

[25] BCG analysis
[26] Climate Adapt (2020).
[27] World Meteorological Organization (2011).

Sharm el-Sheikh Adaptation Outcome #3: Universal access to tools and information required to integrate climate risks into decision-making from local to global levels

Planning against climate risks is a resource-intensive and complex process with long-term consequences. It is critical that planning is guided by the best climate tools and data. However, accessibility of these data, tools, and information remains a challenge from local to global levels. This is in part due to a lack of knowledge sharing between and within governments. In addition, access to these tools and information can be cost prohibitive. Private companies are often not financially incentivised to share existing climate tools and data without external pressure. Even if these tools and information are made available, they might be inaccessible to the public at large. For instance, while multiple types of data are available, they are fragmented across sources, with varying quality and resolution. This is further complicated by the technical complexity of these tools and information, which make interpretation of them challenging.

Target: To provide universal access to the tools and information required to integrate climate risks into decision-making from local to global levels. It is critical that these tools and information are available to increase overall resilience against more intense and frequent extreme climate events.

Partner spotlight: Launched at COP26, the **Adaptation Research Alliance (ARA)** promotes action-orientated research to inform effective adaptation to reduce the risks from climate change, particularly for countries and communities that are most vulnerable – at the scale and urgency demanded by science. The ARA is a global, collaborative, multi-stakeholder effort, involving over 157 organisations from 50 countries - representing funders, practitioners, researchers and vulnerable communities. Through a combination of advocacy, improved better planning and coordination, and catalysing greater investment in action-orientated research, the ARA seeks to promote evidence-based and effective decision-making and development of adaptation solutions.

Key actor spotlight: '**COP^{2}**' is a growing network of more than 225 organisations coordinated and facilitated by the Billion Minds Project at Columbia University's Mailman School of Public Health. It has begun to grow regional hubs and networks as platforms for engaging a range of experts, international agencies, NGOs and civil society, research centres, and other stakeholders, with the aim to help grow the capacity to support the emotional and psychological resilience of 4 billion people by 2030. This goal will be met by integrating such capacity across the key pathways, modes for mobilising and implementing adaptation progress, and specific geographies and partnerships of the Race to Resilience. By COP28 it will complete a roadmap that details how to achieve this goal, with early adopters identified to progress the work.

Ensure decisions-makers have access to A&R technical capacity and capability. Decision-makers often do not have the sufficient technical capacity to analyse climate data, model socioeconomic and natural impacts of climate risks, and design, implement, and monitor A&R solutions. Decision-makers from national to local levels need increased access to technical capacities and capabilities to improve their ability to assess the impacts of climate change and make informed decisions on A&R planning measures and actions. This includes gaining access to the right analytics expertise (e.g., climate hazard and socioeconomic modelling, solution simulation) and A&R expertise (e.g., planning, policy, project preparation and development, financing).

Given that intellectual capital on climate change and A&R typically sits within ministries of environment, planners continue to cite a lack of awareness of A&R within sectors where A&R action is needed.[28] It is crucial therefore that ministries and agencies (e.g., ministries of health, agriculture, water) gain sufficient knowledge on climate and A&R to improve their ability to plan for and implement A&R action within their sectoral priorities and jurisdictions while still ensuring that these actions align with broader public priorities and mitigation goals.

Examples exist of opportunities for training and developing A&R specialists across required areas of expertise, accelerating the capacities of technical professionals, and setting up a professional body of experts. For example, the City Climate Planner program led by GBCI in partnership with WRI and ICLEI ensures that urban professionals are equipped to support local climate action planning, including adaptation planning. The programme aims to raise the global talent base of city climate planning professionals through training and professional certification.[29] The GCOS Cooperation Mechanism (GCM) makes resources available for improving climate-observing systems in developing countries, particularly to enable them to collect, exchange, and utilise data.[30] And the IPCC Task Group on Data and Scenario Support for Impact and Climate Analysis (TGICA) contributes to building capacity to use data and scenarios for climate-related research in developing and transition-economy regions and countries. It does so by convening expert meetings on an as-needed basis and maintaining and updating a global list of networks for outreach.[31]

Securing funding for planning and ensuring availability of funding for implementation. Technical assistance for the planning process and its continuous revision need to be funded. Funding sources consist primarily of domestic public finance, bilateral providers, and multilateral funds, including the funds established under the UNFCCC that have a clear mandate to support A&R planning in developing countries.[32] Public expenditure review and securing grant-based funding (e.g., Green Climate Fund grants for developing countries[33]) are some ways that governments can think about financing the planning process, including the necessary technical assistance, and its continuous revision. For example, the government of Togo has taken steps to align its NAP process with its national development and budget planning cycle. It established the Technical Committee for Coordination of the Integration Process of Climate Change in Planning and Budgeting in Togo, which evaluates and incorporates the cost of A&R into national budgeting and programming systems.[34]

To implement A&R plans and projects, funding from different sources such as public financial actors, private financial actors, philanthropies, and foundations must also be identified and

[28] BCG expert interview
[29] ICLEI
[30] GCOS
[31] IPCC
[32] NAP Global Network. Financing NAP Processes (2017).
[33] Green Climate Fund
[34] NAP Global Network. Financing NAP Processes (2017).

matched to specific projects. *See the 2030 Adaptation Outcomes for Human Settlements report for more detail.*

Ensure policy specific to A&R objectives and priorities guide decision-making. National stakeholders should set the framework and priorities that drive sectors and subnational governments to act towards a common adaptation goal. This should also steer private sector action. Having common A&R goals and aligning on the objectives and outcomes that A&R plans should target is important for effective planning. Such frameworks and priorities could include objectives to protect vulnerable groups or safeguard vital economic sectors and jobs. For example, one of the core principles for adaptation action demonstrated in New Zealand's NAP is to promote equity by prioritising to help people, places, and infrastructure that are most vulnerable to climate impacts.[35]

V. ROLE OF THE PRIVATE SECTOR

The private sector plays a key role in contributing to A&R planning

A&R is not and should not be the responsibility of governments alone. It requires the participation and coordination of multiple stakeholders, one of which is the private sector. Progress on private sector climate action is primarily regulation-driven, with country governments increasingly introducing climate regulations and policies that affect businesses and require them to act. In addition, investors increasingly require climate-related disclosure to understand a company's exposure to physical and transition risks. The public sector also seeks to understand physical risks within the private sector, considering the critical goods and services they provide, such as water, energy, and food.

All these pressures stem from the fundamental role the private sector plays in society. They are a key driver of economic and social growth, accounting for 60% of GDP[36] and 90% of jobs in developing countries. [37] However, **the imperative for the private sector is not merely to act due to external regulatory pressures but also in recognition of the business opportunities and economic value that rise from A&R action to manage climate risks**. The public sector will increasingly require private contributions in A&R planning, particularly in areas that affect public goods and services and industries that have significant contributions to local economies and jobs.

Inaction by companies will potentially cause massive financial losses (e.g., revenue loss, increased operational expenses), job losses, and supply chain disruptions, ultimately affecting the lives and livelihoods of those who rely on them. And while it may not yet be fully recognised, the private sector has an important role to play in planning. Companies not only need to disclose climate risk, but they also need to develop their own A&R plans to protect against their exposure and vulnerability to climate impacts. From an A&R planning perspective, there are three types of companies:

- **Companies with assets for public good** should disclose climate risks and develop adaptation plans that are implemented urgently with public sector collaboration to secure the provision of essential goods and services. For example, electrical companies must have plans to ensure the power grid is climate-proofed against climate impacts.

[35] Ministry for the Environment (2022). Aotearoa New Zealand's first national adaptation plan. Wellington.
[36] IMF (2013).
[37] IFC. IFC Jobs Study: Assessing Private Sector Contributions to Job Creation and Poverty Reduction (2013).

- **Companies that deliver essential products** must disclose climate risk and develop A&R plans. This includes food and agriculture companies, which the population relies upon.
- **All other companies** should disclose climate risk and work towards A&R solutions, as even those that do not provide essential goods and services still contribute to the economy and create jobs, thus affecting livelihoods if disrupted.

An example of a company taking action to protect their assets and the public is Autostrade per l'Italia (ASPI), the operator of the largest toll road network in Italy. With this initiative, ASPI has become an early mover in private sector A&R in its actions to meaningfully protect the safety of their customers and the critical assets the public relies upon. These actions have been based upon a thorough climate risk assessment framework that supports the company's A&R planning.[38]

Sharm el-Sheikh Adaptation Outcome #4: 2,000 of the world's largest companies have developed adaptation plans

The government does not bear the sole responsibility of leading the A&R agenda - the private sector is equally important. The reality, however, is that most private companies are in the early stages of developing A&R plans. Private companies need to develop A&R plans to protect their assets and supply chains against climate impacts. This is particularly important for private companies that deliver public goods and essential services that are critical for people and economies to thrive, such as those in communications, infrastructure, and energy, utilities, and transport industries. This is also true for companies with critical supply chains, such as food and agriculture.

Target: For the largest 2,000 companies to have a significant impact on society through the direct provision of goods and services, jobs, and contribution to GDP. These companies generate $48 trillion in revenue and $5 trillion in profits,[39] signalling their strong economic contributions across the globe. With their combined $234 trillion in assets, it is imperative they protect the physical infrastructures, facilities, supply chains, and operations that lives and livelihoods rely upon. Large companies must take charge in scaling up private sector adaptation planning to maximise the deployment of urgently needed A&R action as well as to spark action from smaller companies.

Private sector participation in the design and delivery of A&R solutions for the public sector

In addition to its own disclosures and planning, the private sector needs to participate in public sector A&R planning, codeveloping solutions, funding, implementation, and enablement. Examples of roles the private sector can play include:

- **Private enterprises** can support the identification of risk and definition of public A&R strategies. These enterprises typically have qualitative expertise in understanding and assessing the economic and social impacts of climate risks (e.g., the impact of storms on highways) on their respective sectors, which are valuable inputs to public sector A&R plans. Beyond plans, private enterprises could co-own the execution of the A&R action (e.g., construction, operations and maintenance, monitoring) via public-private partnerships or private sector consortiums.

[38] BCG expert interview
[39] Forbes (2022)

- **Data and information providers** can provide capability support through their in-house capabilities and assets in defining an A&R plan; for example, through expanding the quality, availability, and accessibility of geospatial data. They can also play a more active role in the monitoring and evaluation of identified A&R solutions; for example, technology and fintech companies have developed technologies that measure soil moisture to measure A&R responses against drought, providing invaluable data for measuring and reporting the effectiveness of A&R solutions.
- **Solution and technology providers**, including engineering, procurement, and construction firms (EPCs) and tech companies, can innovate and grow the market of A&R solutions. For example, the Global System for Mobile Communications Association (GSMA) is driving and scaling innovations in digital and mobile-enabled solutions to enhance early warning for disasters. [40]
- **Private financial institutions and investors** can translate their A&R plans into funding and financing plans. Financial institutions and investors can engage government decision-makers on funding and financing requirements in A&R throughout the planning process. *See the 2030 Adaptation Outcomes for A&R Finance report for more detail.*

Overall, the private sector should disclose climate risks and develop and implement their own A&R plans. Aside from fulfilling external requirements such as TCFD regulations, planning helps secure their business models and bottom line, ultimately protecting their assets and revenue while simultaneously protecting those who rely on their critical products and services. Furthermore, companies can capture the opportunities derived from A&R activities, such as providing A&R solutions, technologies, and infrastructure. Finally, companies can demonstrate leadership by being first movers in A&R and supporting the public sector towards achieving the Global Goal on Adaptation.

[40] GSMA

VI. CALL TO ACTION

While there are pockets of good planning practices globally and increasing focus on building capabilities for A&R, there is still much to be done to achieve the goal of 4 billion people being resilient to climate change. An accelerated scale-up in robust A&R planning is an important enabler to achieve this objective. To this end, governments, the private sector, funders, and civil society need to act at pace.

- **Governments**
  - **National governments** to create national adaptation plans and set climate-forward policies and priorities to enable adaptation planning across the public and private sectors and levels of government. Suitable institutional arrangements (e.g., policies, structures, processes) for capabilities, funding, and information to flow down to the local level are also needed.
  - **Subnational and local governments,** including cities and regions, to create A&R plans and ensure they align with national priorities and are contextualised to the climate risks and impacts felt at the local level. Involving relevant stakeholders such as vulnerable community groups, civil society, academia, and the private sector will be critical in planning, implementing, and evaluating adaptation solutions.
- **Private sector,** especially companies that deliver essential goods and services and those with high economic contributions, to develop A&R plans to protect the lives and livelihoods that depend on these companies. Climate risks and key outcomes of A&R plans will be disclosed to contribute to national and local planning. Data providers can make climate risk data available and accessible to enable planners to understand the impacts of climate hazards on their localities.
- **Funders**, both private and public, to engage governments and decision-makers in the planning process, provide funding required for planning, and actively engage on funding needs for actions identified in A&R plans.
  - **International public funders** (e.g., multilateral development banks, DFIs) to provide technical assistance to governments to develop evidence-based, actionable adaptation plans that inform funding and financing needs.
  - **Private financial institutions and institutional investors** to play a role in innovating and scaling mechanisms for financing A&R. This will increase options on funding and financing projects and programmes prioritised through the planning process.
  - **Philanthropies and foundations** to provide the necessary grant-based funding and convene the right stakeholders to support planning and set the foundation for successful implementation
- **Civil society**
  - **Vulnerable community groups** to participate in adaptation planning and inform decisions by, for example, qualitatively assessing the feasibility and applicability of A&R solutions to the realities they face on the ground.
  - **Academia** to contribute to adaptation planning by giving expert input to the science-backed assessment of climate risks and formulation of A&R solutions, as well as continuing to advance thought leadership as climate science and A&R technologies/solutions evolve.
  - **NGOs, CSOs, coalitions, and international agencies** to use their influence to drive localisation and the international and national imperative for adaptation.

APPENDIX: PARTNERS, ORGANISATIONS, AND INITIATIVES

Sharm el-Sheikh Adaptation Outcomes	Race to Resilience Partner	Other Organisations
10,000 cities and 100 regional governments have evidence-based, actionable adaptation plans	• Cities Race to Resilience • 1000 Cities Adapt Now (GCA) • Regions4 • RegionsAdapt	• Global Covenant of Mayors on Climate & Energy • United Cities and Local Government (UCLG) • WWF • CDP • Research Coordination Network • C40 Cities • ICLEI • Making Cities Resilient 2030
Operationalisation of National Adaptation Plans and Locally-Led Principles, enabling adaptation in a country-driven localised and consultative manner		• World Resource Institute (WRI) • International Institute for Environment and Development(IIED) • Global Center on Adaptation
Universal access to the tools and information required to integrate climate risks into decision making from local to global levels		• Adaptation Research Alliance (ARA) Platform
2,000 of the world's largest companies have developed adaptation plans	• Resilience First	

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About UN Climate Change High-Level Champions
The UN Climate Change High-Level Champions engage non-State actors to support governments in delivering the goals of the Paris Agreement. Working with the Marrakech Partnership - a global alliance of more than 320 major initiatives and coalitions - the Champions enhance the ambition of cities, regions, businesses and investors and other non-State actors, to collectively race towards a fair, resilient and zero carbon world.